

t43\_pboole  
(TMLVi4qJ6LBi3ZkbPzzNV1Hb7vStwk7SYdy)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r2\_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_pboole : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. k1\_funct\_1 (k1\_pboole X1) X0 = k1\_xboole\_0 \quad (1)$$

Assume the following.

$$\forall X0. r1\_tarski k1\_xboole\_0 X0 \quad (2)$$

Assume the following.

$$\forall X0. (v1\_relat\_1 (k1\_pboole X0) \wedge ((v4\_relat\_1 (k1\_pboole X0) X0) \wedge ((v1\_funct\_1 (k1\_pboole X0)) \wedge (v1\_partfun1 (k1\_pboole X0) X0)))) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge ((v4\_relat\_1 X1 X0) \wedge \\ & (v1\_funct\_1 X1) \wedge (v1\_partfun1 X1 X0))) \Rightarrow (\forall X2. ((v1\_relat\_1 \\ & X2) \wedge ((v4\_relat\_1 X2 X0) \wedge ((v1\_funct\_1 X2) \wedge (v1\_partfun1 X2 X0)))) \Rightarrow \\ & ((r2\_pboole X0 X1 X2) \Leftrightarrow (\forall X3. (X3 \in X0) \Rightarrow (r1\_tarski (k1\_funct\_1 \\ & X1 X3) (k1\_funct\_1 X2 X3)))))) \quad (4) \end{aligned}$$

**Theorem 1**

$$\forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge ((v4\_relat\_1 X1 X0) \wedge (v1\_funct\_1 X1) \wedge (v1\_partfun1 X1 X0))) \Rightarrow (r2\_pboole X0 (k1\_pboole X0) X1)$$